REMARKS

Reconsideration of the application in view of the above amendment and the following remarks is respectfully requested.

Applicants hereby confirm the election of Group I, claims 1-10. Claims 11-20 are canceled. Applicants will continue prosecuting the canceled subject matter in a divisional application, filed on November 7, 2005.

Claims 1-10 are pending. Claims 1 and 2 are amended. New claims 21-36 are added. Support for the amendment can be found, for example, in paragraphs [0013], [0014], [0042], [0076] and Example 4 in the published application 2004/0038080. Upon entry of this amendment, claims 1-10 and 21-36 will be pending.

Applicants acknowledge the provisional double patenting rejections, and are prepared to file a terminal disclaimer once any of the co-pending application issues as a patent before the instant application.

Claim 1 is rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent Publication No. 2001/0021160 to Shuy (hereafter "Shuy"). Specifically, the Examiner is of the position that Shuy teaches transparent layer of Ge, Si, GaP, etc and a reflective layer of Ag, Al, Au, etc. The Examiner further considers the thermal manipulation layers disclosed in Shuy is equivalent of the dielectric layers of the instant application. Applicants traverse this ground of rejection for the reasons as set forth below.

Claims 1 as amended and new claim 22 are directed to optical recording device having a multi-layer structure, upon irradiation with an energy beam, comprising a bilayer of first recording layer and a second recording layer, and at least one dielectric layer, the bilayer including a record mark (region M of Figure 1), and the dielectric layer including a crystallized region (region M' in Figure 1). The reflection coefficient of the record mark is different from that of the surrounding regions in the bilayer. Likewise, the reflection coefficient of the crystallized region is different from that of the surrounding regions in the dielectric layer. Accordingly, the record mark together with the crystallized region, being in the light path, form

an irradiated region that reflects incident light substantially different from their surrounding regions. The compounded effect of the record mark in the bilayer and the crystallized region in the dielectric layer results in an increased difference of reflection coefficient than the surrounding areas that when the crystallized region is absent, see, for example, paragraph [0014]. This further improves the C/N ration and reduces jittering, as illustrated in Working Example 3 and Table 2. Applicants have discovered that by selecting a laser beam having a wavelength λ via an objective lens having a numerical aperture NA such that $\lambda / NA \leq 640$ and modulating the power output and pulse pattern of the laser beam, a record mark in the bilayer and a crystallized region in the dielectric layer will form along the light path.

Shuy does not disclose or suggest a crystallized region in the thermal manipulative layer, which the Examiner considers as the equivalent of the dielectric layer of the instant application. Shuy is silent with regard to modulating the energy output and pulse pattern of the laser beam. Applicants therefore respectfully request that this ground of rejection be withdrawn.

Claims 1-6 and 9-10 are rejected under 35 U.S.C. 102(a) as being anticipated by Japanese Patent Publication No. 2003-054135 to Mizushima (hereafter "Mizushima I". Applicants respectfully submit that Mizushima I is not a proper prior art reference. Mizushima I was published on February 26, 2003. The instant application claims priority to Japanese Application No. 2002-191613, filed July 1, 2002, which predates the publication date of Mizushima I. A copy of the Application Data Sheet as originally filed with the application showing the priority claim is enclosed herein. Also enclosed is a copy of the front page of the certified priority document, filed with the USPTO on June 27, 2003. A certified English translation of the priority document is to follow shortly. Applicants therefore respectfully request that Mizushima I be removed as prior art.

Claim 1-10 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,841,218 to Hosoda (hereafter "Hosoda"). Applicants respectfully submit that Hosoda is not a proper prior art reference. Hosoda was filed in the U.S. on May 13, 2003. As noted above, the instant application claims priority to Japanese Application No. 2002-191613,

filed July 1, 2002, which predates the U.S. filing date (*i.e.*, the 102(e) prior art date) of Hosoda. Applicants therefore respectfully request that Hosoda be removed as prior art.

Claims 1-10 are rejected under 35 U.S.C. 102(a) as being anticipated by Inoue el al., "Inorganic Write-Once Disc for High Speed Recording" (hereafter "Inoue"). Applicants respectfully submit that Inoue is not a proper prior art reference. Inoue was published in February, 2003. As noted above, the instant application claims priority to Japanese Application No. 2002-191613, filed July 1, 2002, which predates the publication date of Inoue. Applicants therefore respectfully request that Inoue be removed as prior art.

Claims 1 is rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,841,218 to Ashida (hereafter "Ashida"). Applicants respectfully submit that Ashida is not a proper prior art reference. Ashida was filed in the U.S. on March 21, 2003. As noted above, the instant application claims priority to Japanese Application No. 2002-191613, filed July 1, 2002, which predates the U.S. filing date (*i.e.*, the 102(e) prior art date) of Ashida. Applicants therefore respectfully request that Ashida be removed as prior art.

Claims 1-6 and 9-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent Publication No. 62-204442 to Kobayashi (hereafter "Kobayahsi") The Examiner relies on the English translation of the abstract of Kobayashi to assert that Kobayashi discloses two kinds of phase-change films (41,42) and dielectric layers (3,5). Kobayashi, however does not disclose or suggest a crystallized region in the dielectric layer upon irradiation. The Examiner asserts that same compounds will react the same way under the same circumstances (i.e., irradiation). It is clear however, in the Figures that no crystallized region is present in layer 3 or 5. It therefore follows, according to the Examiner's assertion, that the irradiation circumstance is different in Kobayashi from what is required in the instant application in forming a crystallized region in the dielectric layer. Applicants respectfully submit that Kobayashi does not disclose at least one element of the instant application, i.e., a crystallized region in a dielectric layer. Applicants therefore request this ground of rejection be withdrawn.

Claims 1-6 and 9-10 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,477,819 to Lee (hereafter "Lee"). Applicants traverse for the same reason as noted above. Lee does not disclose or suggest a crystallized region in its passivation layer. Lee

is silent with regard to modulating the energy output and pattern of the laser beam. Applicants therefore request this ground of rejection be withdrawn.

Claim 1-10 are rejected under 35 U.S.C. 102(a) as being anticipated by Japanese Patent Publication No. 2002-269808 to Hayashi (hereafter "Hayashi"). Applicants respectfully submit that Hayashi is not a proper prior art reference. Hayashi was published on September 20, 2002. As noted above, the instant application claims priority to Japanese Application No. 2002-191613, filed July 1, 2002, which predates the publication date of Hayashi. Applicants therefore respectfully request that Hayashi be removed as prior art.

Claims 1-6 and 9-10 are rejected under 35 U.S.C. 102(b) as being anticipated by Japanese Patent Publication No. 06-171236 to Harigai (hereafter "Harigai"). Applicants traverse for the same reason as noted above. Harigai does not disclose or suggest a crystallized region in its passivation layer. Applicants therefore request this ground of rejection be withdrawn.

Claims 1-6 and 9-10 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 6,656,559 to Mizushima (hereafter referred as "Mizushima '559). Applicants traverse for the same reason as noted above. Like Mizushima I, Mizushima '559 does not disclose or suggest a crystallized region in its passivation layer. Applicants therefore request this ground of rejection be withdrawn.

Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kobayashi in view of U.S. Patent No. 4,670,345 to Morimoto (hereafter "Morimoto") The Examiner is of the position that Kobayashi teaches the device substantially as claimed but fails to exemplify the use of a protective layer other than the use of the additional dielectric layer. However, as discussed above, Applicants submit that claims 1 and 22 are distinguishable from the Kobayashi in that Kobayashi does not disclose or suggest a crystallized region in the dielectric layer. This deficiency is not cured by Morimoto which merely teaches a reflective layer. Like Kobayashi, Morimoto does not suggest a crystallized region in the dielectric layer. Accordingly, Morimoto does not add to the disclosure of Kobayashi to render the claims 1 and 22 obvious. Applicants therefore respectfully request this ground of rejection be withdrawn.

Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shuy. The Examiner is of the opinion that Shuy discloses a device substantially as claimed and it would

have been obvious to use other reflective layers. Applicants disagree. Applicants submit that claims 1 and 22 are distinguishable from the Shuy in that Shuy does not disclose or suggest a crystallized region in the dielectric layer. The Examiner has not presented an argument why this should be obvious to one skilled in the art. Applicants have discovered that only by manipulating the irradiation specification such as wavelength, recording power and aperture of the incident light, a crystallized region will form in the dielectric layer as well as a record mark in the bilayer, which will collectively affect the reflection coefficient of the irradiated region (including both the record mark and the crystallized region). Applicants therefore respectfully request this ground of rejection be withdrawn.

Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shuy in view of any one of Japanese Patent No. 10-143919 to Yoshida, U.S. Patent No. 5,325,351 to Uchiyama (hereafter "Uchiyama"), Lee or U.S. Patent No. 6,449,239 to Uno (hereafter "Uno").

Applicants traverse this ground of rejection for the same rationales as set forth above. Shuy fails to disclose or suggest a crystallized region in the dielectric layer. This deficiency is not cured by any of the secondary references. Applicants therefore respectfully request this ground of rejection be withdrawn.

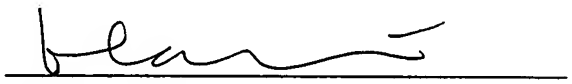
In conclusion, Applicants submit that claims 1 and 22, as amended are directed to an optical recording device that, after irradiation of an energy beam of selected power and pulse pattern, comprise a record mark in a bilayer structure of first and second recording layers, and a crystallized region in a dielectric layer. None of the references cited teaches or suggests the crystallized region in a dielectric layer, or any changes in a dielectric layer. Applicants therefore request that these grounds of rejection be withdrawn.

The Director is authorized to charge any additional fees due by way of this Amendment, or credit any overpayment, to our Deposit Account No. 19-1090.

All of the claims remaining in the application are now clearly allowable. Favorable consideration and a Notice of Allowance are earnestly solicited.

Respectfully submitted,

SEED Intellectual Property Law Group PLLC



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Enclosure:
Postcard
Copy of ADS as filed on June 27, 2003
Copy of the front page of the certified priority document as filed on June 27, 2003

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